

RCACR-SA6D

Cleanroom ROBO Cylinder, Slider, Built-in Type, Actuator Width 58mm, 24V Servo Motor, Aluminum Base

Model Specification Items	RCACR — SA6D	— Encoder type —	30	— Motor type —	— Lead —	— Stroke —	— Applicable controller —	— Cable length —	— Options
	Series — Type	— Encoder type —	Motor type	Lead	Stroke	Applicable controller	Cable length	Options	See Options below.
	I: Incremental A: Absolute		30: 30W Servo motor	12: 12mm 6: 6mm 3: 3mm	50: 50mm { 600: 600mm (50mm pitch increments)	A1: ACON ASEL A3: AMEC ASEP MSEP	N: None P: 1m S: 3m M: 5m X□□: Custom length R□□: Robot cable		

* See page Pre-47 for details on the model descriptions.
* Absolute encoder models can only use ASEL. When the actuator is used with the simple absolute encoder, the model is considered an incremental model.



Power-saving



Technical References Appendix P.5

- POINT**
Notes on selection
- (1) When the stroke increases, the maximum will drop to prevent the ball screw from reaching the critical rotational speed. Use the actuator specification table below to check the maximum speed at the stroke you desire.
 - (2) The load capacity is based on operation at an acceleration of 0.3G (0.2G for the 3mm-lead model). These values are the upper limits for the acceleration.
 - (3) The cleanliness class 10 is for horizontal usage. Please note that the actuator may not support C10 when used on its side or in vertical orientation.
 - (4) See page A-71 for details on push motion.

Actuator Specifications

Lead and Payload

Model number	Motor output (W)	Lead (mm)	Max. Load Capacity		Rated thrust (N)	Stroke (mm)
			Horizontal (kg)	Vertical (kg)		
RCACR-SA6D-①-30-12-②-③-④-⑤	30	12	6	1.5	24.2	50~600 (every 50mm)
RCACR-SA6D-①-30-6-②-③-④-⑤		6	12	3	48.4	
RCACR-SA6D-①-30-3-②-③-④-⑤		3	18	6	96.8	

Stroke and Max. Speed/Suction Volume by Lead

Stroke Lead	Stroke					Suction Volume (NL/min)
	50~450 (every 50mm)	500 mm	550 mm	600 mm	600 mm	
12	800	760	640	540	50	
6	400	380	320	270	30	
3	200	190	160	135	15	

Code explanation ① Encoder ② Stroke ③ Applicable Controller ④ Cable length ⑤ Options *See page A-71 for details on push motion. (Unit: mm/s)

① Encoder type/② Stroke

② Stroke (mm)	Standard price	
	① Encoder Type	
	Incremental	Absolute
	I	A
50	—	—
100	—	—
150	—	—
200	—	—
250	—	—
300	—	—
350	—	—
400	—	—
450	—	—
500	—	—
550	—	—
600	—	—

⑤ Options

Name	Option code	See page	Standard price
Brake (cable exiting from end)	BE	→ A-42	—
Brake (cable exiting from left)	BL	→ A-42	—
Brake (cable exiting from right)	BR	→ A-42	—
Foot bracket	FT	→ A-48	—
Power-saving	LA	→ A-52	—
Non-motor end specification	NM	→ A-52	—
Vacuum port on opposite side	VR	→ A-58	—

④ Cable Length

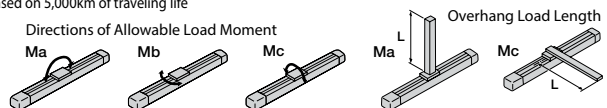
Type	Cable symbol	Standard price
Standard	P (1m)	—
	S (3m)	—
	M (5m)	—
Special length	X06 (6m) ~ X10 (10m)	—
	X11 (11m) ~ X15 (15m)	—
	X16 (16m) ~ X20 (20m)	—
Robot Cable	R01 (1m) ~ R03 (3m)	—
	R04 (4m) ~ R05 (5m)	—
	R06 (6m) ~ R10 (10m)	—
	R11 (11m) ~ R15 (15m)	—
	R16 (16m) ~ R20 (20m)	—
	R16 (16m) ~ R20 (20m)	—

* See page A-59 for cables for maintenance.

Actuator Specifications

Item	Description
Drive System	Ball screw, ø10mm, rolled C10
Positioning repeatability	±0.02mm
Lost Motion	0.1mm or less
Base	Material: Aluminum, white alumite treated
Allowable static moment	Ma: 38.3 N·m, Mb: 54.7 N·m, Mc: 81.0 N·m
Allowable dynamic moment (*)	Ma: 8.9 N·m, Mb: 12.7 N·m, Mc: 18.6 N·m
Allowable overhang	220mm or less in Ma, Mb and Mc directions
Grease Type	Low dust generation grease (both ball screw and guide)
Cleanliness	Class 10 (0.1µm)
Ambient operating temperature, humidity	0 to 40°C, 85% RH or less (Non-condensing)

(*) Based on 5,000km of traveling life



Dimensional Drawings

CAD drawings can be downloaded from the website.

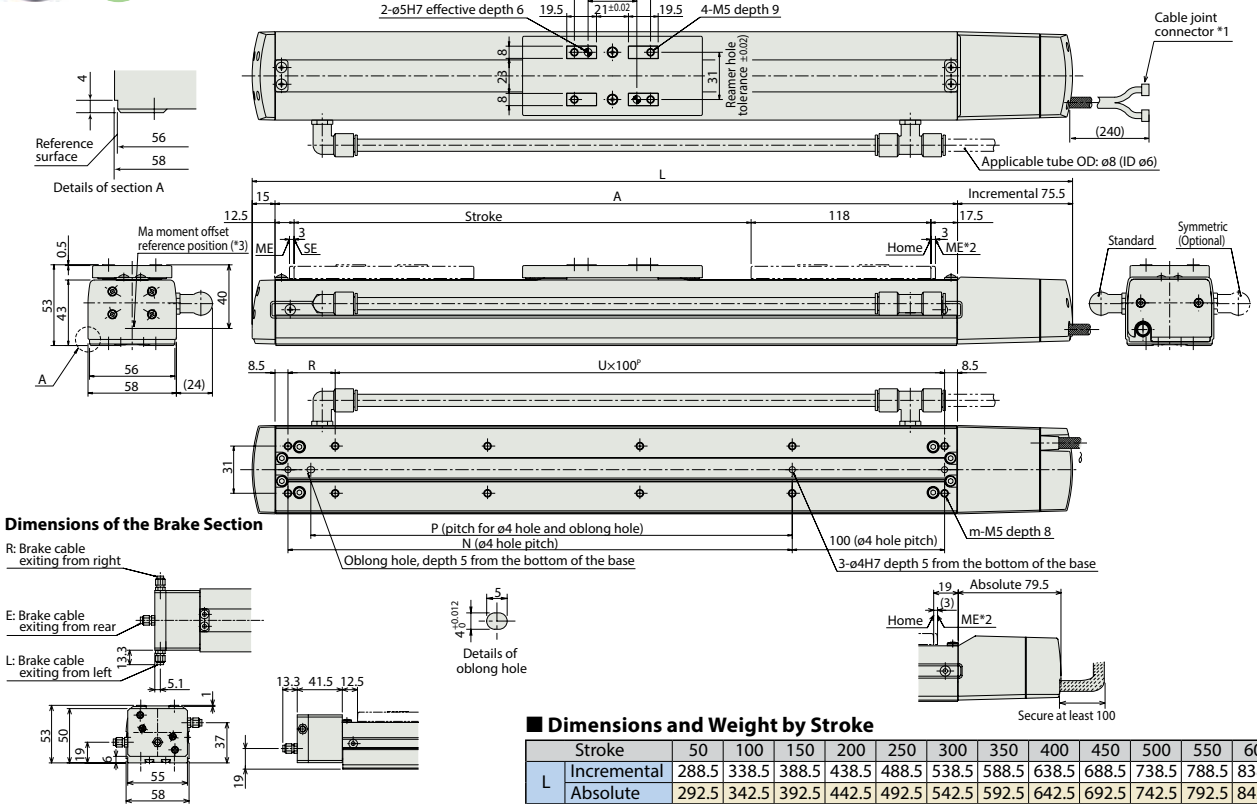
www.intelligentactuator.com

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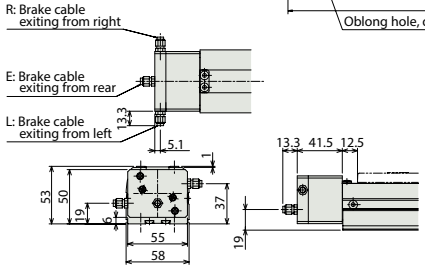
Appendix P.15



* Note that in order to change the home orientation, arrangements must be made to send in the product to IAI.
 * In the non-motor end model (NM), the new home position is set 3mm inward from the ME opposite of the motor side.



Dimensions of the Brake Section



* Adding a brake increases the actuator's overall length (L) by 26.5mm (39.8mm with the cable coming out its end), and its weight by 0.3kg.

- (*1) Connect the motor and encoder cables here. See page A-59 for details on cables.
- (*2) After homing, the slider moves to the ME, therefore, please watch for any interference with surrounding objects.
- ME : Mechanical end SE : Stroke end
- (*3) Reference position for calculating the moment Ma.

■ Dimensions and Weight by Stroke

Stroke	50	100	150	200	250	300	350	400	450	500	550	600	
L	Incremental	288.5	338.5	388.5	438.5	488.5	538.5	588.5	638.5	688.5	738.5	788.5	838.5
	Absolute	292.5	342.5	392.5	442.5	492.5	542.5	592.5	642.5	692.5	742.5	792.5	842.5
A	198	248	298	348	398	448	498	548	598	648	698	748	
N	81	131	181	231	281	331	381	431	481	531	581	631	
P	66	116	166	216	266	316	366	416	466	516	566	616	
R	81	31	81	31	81	31	81	31	81	31	81	31	
U	1	2	2	3	3	4	4	5	5	6	6	7	
m	6	8	8	10	10	12	12	14	14	16	16	18	
Weight (kg)	1.3	1.5	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3	3.5	

③ Applicable Controllers

RCACR series actuators can be operated with the controllers indicated below. Select the type according to your intended application.

Name	External view	Model number	Features	Maximum number of positioning points	Input power	Power-supply capacity	Standard price	Reference page
Solenoid Valve Type		AMEC-C-30I①②③-2-1	Easy-to-use controller, even for beginners	3 points	AC100V	2.4A rated	—	→ P537
		ASEP-C-30I①②③-2-0	Simple controller operable with the same signal as a solenoid valve					→ P547
Solenoid valve multi-axis type PIO specification		MSEP-C-④⑤⑥⑦⑧-2-0	Positioner type based on PIO control, allowing up to 8 axes to be connected	256 points	DC24V	(Standard) 1.3A rated 4.4A max. (Power-saving) 1.3A rated 2.2A max.	—	→ P563
Solenoid valve multi-axis type Network specification		MSEP-C-④⑤⑥⑦⑧-0-0	Field network-ready positioner type, allowing up to 8 axes to be connected					
Positioner type		ACON-C-30I①②③-2-0	Positioning is possible for up to 512 points	512 points	DC24V	(Standard) 1.3A rated 4.4A max. (Power-saving) 1.3A rated 2.2A max.	—	→ P631
Safety-Compliant Positioner Type		ACON-CG-30I①②③-2-0						
Pulse Train Input Type (Differential Line Driver)		ACON-PL-30I①②③-2-0	Pulse train input type with differential line driver support	(—)	DC24V	(Standard) 1.3A rated 4.4A max. (Power-saving) 1.3A rated 2.2A max.	—	→ P631
Pulse Train Input Type (Open Collector)		ACON-PO-30I①②③-2-0	Pulse train input type with open collector support					
Serial Communication Type		ACON-SE-30I①②③-N-0-0	Dedicated Serial Communication	64 points	DC24V	(Standard) 1.3A rated 4.4A max. (Power-saving) 1.3A rated 2.2A max.	—	→ P675
Program Control Type		ASEL-CS-1-30I①②③-2-0	Programmed operation is possible. Can operate up to 2 axes	1,500 points	DC24V	(Standard) 1.3A rated 4.4A max. (Power-saving) 1.3A rated 2.2A max.	—	→ P675

* This is for the single-axis ASEL. * ① indicates encoder type (I: incremental, A: absolute)
 * ② indicates I/O type (NP/PN). * ④⑤⑥⑦⑧ indicates number of axes (1 to 8).
 * Enter the code "LA" in ② when the power-saving option is specified.
 * ④⑤ indicates field network specification symbol.

- Slider Type
- Mini
- Standard
- Controllers Integrated
- Rod Type
- Mini
- Standard
- Controllers Integrated
- Table/ Arm/ Flat Type
- Mini
- Standard
- Gripper/ Rotary Type
- Linear Servo Type
- Clean-room Type
- Splash-Proof Type
- Pulse Motor
- Servo Motor (24V)
- Servo Motor (200V)
- Linear Servo Motor